Remarks/Arguments

Claims 1-38, 40 and 41 are now pending in this application. In the March 8, 2007 Office Action, Claims 1, 7, 14, 22-24, and 30 were rejected under 35 U.S.C. 102(b) as being anticipated by Autry, U.S. Patent No. 6,990,577, (hereinafter "*Autry*"). Claims 2-6, 15, 16, 24-29, 38, and 41 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Autry* in view of Forsman, et al., U.S. Patent No. 6,665,813, (hereinafter "*Forsman*"). Claims 8-13, 17-21, 31-37, and 40, were rejected under 35 U.S.C. 103(a) as being unpatentable over *Autry* in view of Forsman, et al., U.S. Patent No. 6,665,813, (hereinafter "*Forsman*"), and further in view of Singer, et al., U.S. Patent No. 7,017,040, (hereinafter "*Singer*").

By this amendment, no claims have been added, cancelled, or amended. For the reasons set forth below, the applicants respectfully request reconsideration and immediate allowance of this application.

Claim Rejections Under 35 U.S.C. 102(b)

In the March 8, 2007 Office Action, claims 1, 7, 14, 22-24, and 30 were rejected under 35 U.S. C. 102(b) as being anticipated by *Autry*. The rejection is respectfully traversed.

Claim 1

Regarding claim 1, the Office Action primarily relies on *Autry* at Figure 1 as well as various portions within col. 2, lines 11-43. No where in the recited portions of *Autry* does it teach an "image file comprising an essential region for storing program code required for booting the computer system and a non-essential region for storing optional program code for the computer system," as recited in claim 1. Instead, *Autry* teaches a manner of updating a flash memory that includes what it terms as a "configuration data region," which is defined as "a region that may store, for example, data that indicates various boot options (for example) and other options that are specifically configured for the computer system 10." (*Autry* at col. 2, lines 24-29) (emphasis added). The use of the term "boot" in "boot options" indicates that the configuration data region is required for booting the computer system. *Autry*, however, does not teach that the other data regions (i.e., non-configuration data regions) in the flash memory are not required for booting the computer system (i.e., that they are non-essential). Accordingly, *Autry*

does not teach an "image file comprising…a non-essential region for storing optional program code for the computer system."

Notwithstanding the above, *Autry* at col. 2, lines 60-65 teaches updating the BIOS based on one of only two options: (1) updating the existing BIOS with the original replacement BIOS or (2) updating the configuration data of the replacement BIOS and then updating the existing BIOS with the updated replacement BIOS. In both options, the existing BIOS, including the configuration data that remains the same after the update, is entirely updated by a replacement BIOS. This inefficiency of updating portions that do not need updating is mentioned in the Background of the instant application: "However, updating this region in a memory device currently requires creating an entirely new image and re-programming each memory block in the main BIOS region, regardless of whether each block actually needs updating." (Application at p. 2, lines 7-9). Accordingly, because *Autry* teaches that the entire BIOS is to be replaced, *Autry* cannot possibly teach "updating only the non-essential region stored in the non-volatile memory device to update the optional program code for the computer system and not updating the essential region stored in the non-volatile memory device," as recited in claim 1.

In view of the above, *Autry* does not teach, suggest, or describe each and every element of independent claim 1. Dependent claims 2-13 are believed to be allowable as being dependent from an allowable base claim. The applicants therefore submit that these claims are in condition for immediate allowance.

Claim 14

Regarding claim 14, *Autry* does not teach "the image file comprising an essential region for storing program code required for booting the computer system and a non-essential region for storing optional program code for the computer system." Instead, *Autry* teaches only a "configuration data region" and does define a separate "essential region" and "non-essential region" according to claim 14.

Autry also does not teach "update only the non-essential region in the non-volatile memory device to update the non-essential data and not update the essential region in the non-volatile memory device." Instead, *Autry* teaches either updating or not updating a replacement BIOS, and then replacing an entire current BIOS (i.e., every region) with the entire replacement BIOS, regardless of whether the same data is inefficiently overwritten.

In view of the above, *Autry* does not teach, suggest, or describe each and every element of independent claim 14. Dependent claims 15-23 are believed to be allowable as being dependent from an allowable base claim. The applicants therefore submit that these claims are in condition for immediate allowance.

Claim 24

Regarding claim 24, *Autry* does not teach "image file comprising an essential region for storing program code required for booting the computer system and a non-essential region for storing optional program code for the computer system." Instead, *Autry* teaches only a "configuration data region" that is defined as storing "boot options," indicating that the configuration data region is required for booting the computer. *Autry* does not teach a "non-essential region for storing optional program code for the computer system."

Autry also does not teach "updating only the non-essential region in the non-volatile memory device and not updating the essential region in the non-volatile memory device." Instead, *Autry* teaches whether the configuration data in a replacement BIOS is updated or not updated. However, *Autry* teaches that the current BIOS is replaced by the entire replacement BIOS, including the portions of the current BIOS that will remain the same after the update.

In view of the above, *Autry* does not teach, suggest, or describe each and every element of independent claim 24. Dependent claims 25-37 are believed to be allowable as being dependent from an allowable base claim. The applicants therefore submit that these claims are in condition for immediate allowance.

Claim Rejections Under 35 U.S.C. 103(a)

In the March 8, 2007 Office Action, claims 2-6, 15, 16, 24-29, 38, and 41 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Autry* in view of *Forsman*.

In the March 8, 2007 Office Action, claims 8-13, 17-21, 31-37, and 40 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Autry* in view of *Forsman* and further in view of *Singer*.

The rejections are respectfully traversed.

Claim 2

Regarding claim 2, the Office Action contends that *Forsman*, primarily relying on Figure 3, teaches "wherein the non-essential region in the image file comprises one or more non-essential blocks." The applicants respectfully disagree.

Figure 3 of *Forsman* shows a firmware flash memory 300, which includes a non-updateable code 302, updateable composite code, and two copies of the same recovery code: copy A 304 and copy B 306. *Forsman* at col. 5, lines 5-8 teaches that "[t]he primary functions of the recovery code are to insure the integrity of the composite code and, if corruption is detected in the composite code, install a fresh copy of the composite code from a designated data source." *Forsman* does not teach or suggest an "image file" whatsoever, much less an image file that comprises an essential region and a non-essential region. As such, *Forsman* cannot teach or suggest "wherein the non-essential region in the image file comprises one or more non-essential blocks."

In view of the above, *Autry* and *Forsman*, individually or in combination, do not teach, suggest, or describe each and every element of dependent claim 2. The applicants therefore submit that this claim is in condition for immediate allowance.

Claim 3

Regarding claim 3, the Office Action contends that *Forsman*, primarily relying on Figure 3, teaches "reserving at least one of a plurality of sectors in the non-volatile memory device for storing exclusively the one or more non-essential blocks." The applicants respectfully disagree.

Forsman does not teach or suggest an image file that includes an essential region and a non-essential region. As such, *Forsman* cannot teach or suggest that the image file includes one or more non-essential blocks, nor can *Forsman* teach or suggest "reserving at least one of a plurality of sectors in the non-volatile memory device for storing exclusively the one or more non-essential blocks."

In view of the above, *Autry* and *Forsman*, individually or in combination, do not teach, suggest, or describe each and every element of dependent claim 3. The applicants therefore submit that this claim is in condition for immediate allowance.

Claim 4

Regarding claim 4, the Office Action contends that *Forsman*, primarily relying on Figure 3, teaches "updating the non-essential region in the non-volatile memory device comprises mapping the one or more non-essential blocks to the at least one reserved sector in the non-volatile memory device." The applicants respectfully disagree.

Forsman does not teach or suggest an image file that includes an essential region and a non-essential region. As such, *Forsman* cannot teach or suggest updating the non-essential region in the non-volatile memory device, nor can *Forsman* teach or suggest "mapping the one or more non-essential blocks to the at least one reserved sector in the non-volatile memory device."

In view of the above, *Autry* and *Forsman*, individually or in combination, do not teach, suggest, or describe each and every element of dependent claim 4. The applicants therefore submit that this claim is in condition for immediate allowance.

Claim 5

Regarding claim 5, the Office Action contends that *Forsman*, primarily relying on Figure 3, teaches "updating the non-essential region in the non-volatile memory device comprises mapping the one or more non-essential blocks to a portion of the at least one reserved sector in the non-volatile memory device." The applicants respectfully disagree.

Forsman does not teach or suggest an image file that includes an essential region and a non-essential region. As such, *Forsman* cannot teach or suggest updating the non-essential region in the non-volatile memory device, nor can *Forsman* teach or suggest "mapping the one or more non-essential blocks to a portion of the at least one reserved sector in the non-volatile memory device."

In view of the above, *Autry* and *Forsman*, individually or in combination, do not teach, suggest, or describe each and every element of dependent claim 5. The applicants therefore submit that this claim is in condition for immediate allowance.

Claim 6

Regarding claim 6, the Office Action contends that *Forsman*, relying on Figure 3, teaches "wherein the portion of the at least one reserved sector in the non-volatile memory device is a paragraph multiple." Absolutely no where in Figure 3 of *Forsman* does it teach or suggest that "the portion of the at least one reserved sector in the non-volatile memory device is a paragraph multiple."

In view of the above, *Autry* and *Forsman*, individually or in combination, do not teach, suggest, or describe each and every element of dependent claim 6. The applicants therefore submit that this claim is in condition for immediate allowance.

Claim 38

Regarding claim 38, neither *Autry* nor *Forsman*, alone or in combination, teaches or suggests "searching the non-essential region in the non-volatile memory device for at least one module…." Neither *Autry* nor *Forsman* defines a non-volatile memory device with an essential region and a non-essential region, according to claim 38. As such, neither *Autry* nor *Forsman* can teach or suggest "searching the non-essential region." In fact, neither the term "search" nor its variants are used anywhere within either reference. Further, because neither *Autry* nor *Forsman* defines a non-volatile memory device with an essential region and a non-essential region, it follows that neither *Autry* nor *Forsman* teaches or suggests that the non-essential region may have "at least one module."

Absolutely no where in either *Autry* or *Forsman* do they teach "if the at least one module is found in the non-essential region, then executing the program code in the at least one module, wherein the at least one module in the non-essential region contains an updated version of the program code for the computer system."

Absolutely no where in either *Autry* or *Forsman* do they teach "if the at least one module is not found in the non-essential region, then searching an essential region in the non-volatile memory device for the at least one module, wherein the at least one module in the essential region contains a current version of the program code for the computer system."

Absolutely no where in either *Autry* or *Forsman* do they teach "if the at least one module is found in the essential region, then executing the program code in the at least one module."

In view of the above, *Autry* and *Forsman*, individually or in combination, do not teach, suggest, or describe each and every element of independent claim 38. Dependent claims 40-41 are believed to be allowable as being dependent from an allowable base claim. The applicants therefore submit that these claims are in condition for immediate allowance.

Conclusion

In view of the foregoing amendment and remarks, the applicants respectfully submit that all of the pending claims in the present application are in condition for allowance. Reconsideration and reexamination of the application and allowance of the claims at an early date is solicited. If the Examiner has any questions or comments concerning this matter, the Examiner is invited to contact the applicants' undersigned attorney at the number below.

Respectfully submitted,

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Date: June 8, 2007

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